Alma Alvarado
Abe Malla
Joseph Freedman

CECS 323 Project Documentation

Cities across California have come up with a plan to help the homeless population by providing effective solutions to the issue of homelessness. For example, the City of San Jose has decided that they would spend 17 million dollars to build tiny homes for the homeless. As of right now San Jose has built enough homes to house 120 people a year. The goal of this tiny home project is to offer temporary housing to homeless people for three to four months, with the hope that they will find permanent housing after that given time. There is a lot of money being invested into this project which is why the city wants to track its progress and success, this is where the developers come in. The developers should design a database that keeps track of every aspect of the project so that many cities can use the efficient database to track progress. A majority of this data will be accessible to the city but sensitive data should be private.

As developers, we were given the following information that we needed to keep track of and from there we came up with certain classes that would efficiently hold all the information:

1. All of the applicants information: name, age, gender, time being homeless, DOB, and date they applied (Including anything listed on application).
2. The number of people offered housing per year.
3. The number of people who were able to get jobs during the three to four month period.
4. The length of stay per person.
5. The number of people who were able to secure permanent housing.
6. Do you have a previous record of drug use?
7. Do you have a criminal record?

The database is not as simple as tracking the information of every homeless person given housing. We want to also record how the city and specific organizations are helping. There wouldn't be housing if it weren't for the location and the people who are funding this project.

Therefore, we must also record:

1. The City or Organization or Individuals funding the Tiny Homes.
2. The total amount funded per year.
3. The amount of money that is spent every month and yearly.
4. The amount of housing each Tiny Home location can offer.
5. The location or address of each home.
6. The amount of beds filled and the amount empty or the capacity.

Note: the classes we decided to create are bolded, the constraints are integrated into the definition so for clarity we italicized the explanation of constraints:

As of right now a **funder**, which would either be a city, organization, or single person will fund a specific location. *The funder can choose to fund one or many locations, it's truly up to them.* As the organizer of the project I want to make sure to keep track of the name, phone

number, address, affiliation and amount that this specific organization gave to the project. This is necessary for their tax exemptions and for our records to track how much is being funded into our project.

Through these funds a **location** will be able to operate and serve the community. Each location will reside in a specific State, City, and will have a general street address. We would also like to keep track of the amount of years this location has been up and running. *These locations will have a couple dozen **Tiny Homes** if not more*. So this begs the question: how will we be able to tell the homes apart? Well, each home will have a House Number, keep in mind it is not the same as a street address. We would also have to know how many people can live in this tiny home, it's usually one but there are some exceptions. Lastly, we need to keep track whether that certain tiny home is available and ready to be occupied. We will track this with a boolean value, if true then the house is available and if false, the home is occupied and not available.

*Each location will offer a specific **capacity***. This means that there will be a capacity goal for the tiny homes. For example, San Jose's current location can hold 70 tiny homes. The capacity class will be in charge of keeping track of the number of homes each location can hold, the homes that are currently filled. Which will most likely be all but there might be times where not all the homes are filled. If there are any vacant homes we would also want to track the number so that we can reach our capacity. Finally, the owner of the project would like to know the capacity or occupancy per year.

Every location will have **Expenses**. *This will keep track of every expense that each location will have, which might consist of many per location.* Each expense includes the **Monthly** and **Yearly** expenses that are associated with the total expense. The monthly expenses can change because the bills can vary each month. The yearly class is it's own table because it only changes once per year. These two tables can be combined together to provide the total cost for each expense, for each location. Which is why we have made them subclasses of expenses. The relationship between the parent Expense class and the Monthly and Yearly classes are complete and overlapping.

For every tiny home, *there may or may not be* a **Person** occupying there. Each person needs to apply to be able to live in the tiny home. Their basic information is recorded so that it can be determined whether they are eligible to live there or not. We also track if they have been offered housing or not, because a person may have applied but they may or may not have been offered the housing option. We want to also keep track of how long they have been without permanent housing (homeless). They may or may be staying at shelters so we left this as a string so we could add a small explanation. Their basic information will be a strings including Gender because some may identify as non-binary or transdenger so we will also leave that as a string.

It is essential to track certain information that may affect whether we can house an individual. Each person will be asked whether they have had a **criminal record** and if they have we want to make sure they do not put anyone else at risk. *Not everyone will have a criminal record* and for those who do, the city or organization will determine whether they are available to get housing so the developers should only care about keeping track of the criminal record. Therefore, we are asked to track if they have an active case open: simple yes or no. Sometimes, a person might not have an active case but they might have past convictions so we

want to know if they have that. It is also essential to know the type of conviction they got for safety reasons. Lastly, we cannot judge a person based on the misdemeanor without letting them explain the reason why they got it. It is not our place to judge but instead to see if we can offer support.

Unfortunately, *many homeless people struggle (keep in mind not everyone struggles)* with **Drug Use** which is why it is important for us to ask. When we determine whether they struggle with an addiction we need to know if they are a recovering addict and if they do struggle with this we need to be able to give them the support necessary to help them. Through this they will either join a recovery program and if so we need to know the program that they are in.

Every single person will have to apply for **Employment**, so that they have the opportunity to eventually move out of the tiny house to a more permanent residence. *A person might not have employment right away, or they might have multiple jobs up to a maximum of 2 jobs.* We track information like hourly wage so we can appropriately move them out of the tiny house when they are able to. We need to also track the company that they are working for so that we can make sure they have a legitimate job as well as the type of work they will be doing.

The goal of this tiny home project is to offer temporary housing to homeless people for three to four months, with the hope that they will find permanent **housing** after that given time. This project is meant to help shape these individuals to become members of society. If we offer permanent housing we won't be able to help as many people. The housing class will keep track of the amount of time the individual stayed in the tiny homes (1- 4 months), if the goal was met. The goal being them moving out by four months or if they are still homeless. Finally, were they able to secure housing: yes or no. *There will be individuals who do find secure housing after but there is always the possibility that they might not have housing after.*